

Log 1585

NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: November 16, 1983

Forwarded to:

Honorable J. Lynn Helms
Administrator
Federal Aviation Administration
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

A-83-82

On March 21, 1983, Wings Airways Flight 224, a Brittan Norman BN-2A, N420WA, experienced a separation of the inboard end of the deicer boot and the associated deicer lead strap assembly from a blade on the right propeller. The separated end of the deicer boot and lead strap penetrated a cabin window in the propeller's plane of rotation. Two passengers seated adjacent to the shattered window received facial lacerations. The flightcrew and eight other passengers were not injured.

Laboratory examination of the deicer boot section revealed that the adhesive appeared to have been applied evenly throughout the bonding area, and that the outboard end of the deicer boot was still strongly glued to the propeller blade.

Various types of restrainers are used to hold deicer lead straps securely against the hub to prevent loosening of the propeller deicer boot bond when centrifugal forces act on the deicer lead straps. The BN-2A propeller design incorporated a clamp and tie strap restrainer to limit the movement of the deicer lead strap.

Postaccident examination of the center and left propeller assemblies of N420WA revealed that the clamp and tie restrainer was missing from one blade of the left propeller assembly. Currently, there is no requirement for maintenance inspections of the propeller deicer boot except during overhaul at 1500-hour intervals.

In view of the hazards created by in-flight separation of propeller boots, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Issue a maintenance alert bulletin to principal airworthiness inspectors to bring to the attention of all operators and maintainers of Brittan Norman BN-2A Islander and BN-2A MK 111 Trilander airplanes the potential for propeller blade deicer boot separations because of inadequate restraint of deicer lead straps and emphasize the importance of inspecting propeller blade deicer boot lead strap restrainers during daily preflight inspections. (Class II, Priority Action) (A-83-82)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and McADAMS, BURSLEY, and ENGEN, Members, concurred in this recommendation.

By: *Catrina C. Johnson*
Jim Burnett
Chairman *for*